

Listing of All Claims Including Current Amendments

1. (Currently Amended) Device for depositing crystalline layers on crystalline substrates from the gas phase, which includes a heated ~~reaction~~ growth chamber having a main substrate holder for receiving at least one substrate;

one or more heated sources, where a gaseous halide is formed by chemical reaction of a halogen, in particular HCl, which is fed to the source together with a carrier gas, and a metal, for example Ga, In, Al, arranged at the source in the growth chamber, the gaseous halide being conveyed through a gas inlet section to a the at least one substrate supported by the main substrate holder ~~without feed tubes in the growth chamber;~~

a hydride feedline for feeding a hydride, in particular NH_3 , AsH_3 or PH_3 , into the ~~reaction~~ growth chamber, characterized in that the reaction chamber, has an axis of symmetry, and a multiplicity of rotationally driven substrate holders are arranged annularly about the axis of symmetry on the main substrate holder, the separately heatable sources being disposed adjacent to the axis of symmetry ~~inside the reaction chamber~~ in the main substrate holder in the growth chamber.

2. (Currently Amended) Method for depositing crystalline layers on crystalline substrates from the gas phase comprising: providing a heated ~~reaction~~ growth chamber having a main substrate holder for receiving at least one substrate;

one or more heated sources, where a gaseous halide is formed by chemical reaction of a halogen, in particular HCl, which is fed to the source together with a carrier gas, and a metal, for example Ga, In, Al, arranged at the source in the growth chamber, the gaseous halide being conveyed through a gas inlet section to a the at least one substrate supported by the main substrate holder ~~without feed tubes~~ in the growth chamber;

a hydride feedline for feeding a hydride, in particular NH_3 , AsH_3 or PH_3 , into the ~~reaction~~ growth chamber, characterized in that the reaction chamber has an axis of symmetry about which the main substrate holder ~~carrier~~ is rotationally driven, on which substrate holder ~~carrier~~ a multiplicity of substrate holders in annular arrangement about the axis of symmetry are rotationally driven, and the halide is generated in separately heated sources which are disposed adjacent to the axis of symmetry ~~inside the reaction chamber~~ in the main substrate holder in the growth chamber; and

depositing at least one crystalline layer on at least one crystalline substrate in said heated ~~reaction~~ growth chamber.

3. (Previously Presented) The device according to Claim 1, characterized in that the hydrides or the halides flow through the reaction chamber in the radial direction.

4. (Previously Presented) The device according to claim 3, characterized in that the halide or the halogen is introduced into the center of the reactor.

5. (Previously Presented) The device according to claim 4, characterized in that the source is heated by light or high frequency.

6. (Previously Presented) The device according to claim 5, characterized in that the substrate holder carrier is rotationally driven.

7. (Previously Presented) The device according to claim 6, characterized in that the source rotates with the substrate holder carrier or is fixed in position.

8. (Previously Presented) The device according to claim 7, characterized in that the hydride emerges from openings in the reaction chamber cover positioned opposite the substrate holder carrier.

9. (Previously Presented) The device according to Claim 8, characterized in that the openings are distributed uniformly over the annular substrate holder carrier.

10. (Previously Presented) The device according to claim 9, characterized in that the openings are arranged in radial zones which are positioned angularly offset with respect to one another.

11. (Previously Presented) The device according to claim 10, characterized by sections with openings for the halides to enter, disposed between the radial zones.

12. (Previously Presented) The device according to claim 11, characterized in that a plurality of sections for the introduction of different halides are disposed offset with respect to one another in the circumferential direction and are separated from one another in particular by the openings for introducing the hydride.

13. (Previously Presented) The device according to claim 12, characterized in that the sources are formed by halogen-swept pans or by halogen-washed-through containers.

14. (Previously Presented) The device according to claim 13, characterized in that the substrate holders mounted on gas cushions are rotationally driven by means of a gas stream.

15. (Previously Presented) The device according to claim 14, characterized in that Si or Al_2O_3 substrates, with a diameter of up to 300 mm, are used as substrate material.

16. (Previously Presented) The device according to claim 15, characterized in that a GaN layer and/or layer sequence comprising AlGaInN are applied to the substrates.

17. (Previously Presented) The device according to claim 16, characterized in that the layers or layer sequences, which are approx. 200 μm thick, are removed from the substrate and used as substrate for the deposition of GaN.

18. (Previously Presented) The device according to claim 17, characterized in that a gaseous dopant is also introduced into the reaction chamber in parallel with the hydride from Group V.

19. (Previously Presented) The device according to claim 18, characterized by one or more sources for receiving a solid or liquid dopant which is conveyed into the reaction chamber as a halide.

20. (Currently Amended) Device for depositing crystalline layers on crystalline substrates from the gas phase, which includes a heated ~~reaction~~ growth chamber having a main substrate holder for receiving at least one substrate;

one or more heated sources, where a gaseous halide is formed by chemical reaction of a halogen which is fed to the source together with a carrier gas, and a metal arranged at the source in the growth chamber, the gaseous halide being conveyed through a gas inlet section to a the at least one substrate supported by the main substrate holder in the growth chamber;

a hydride feedline for feeding a hydride into the ~~reaction~~ growth chamber, characterized in that the ~~reaction~~ growth chamber, has an axis of symmetry, and a

multiplicity of rotationally driven substrate holders are arranged annularly about the axis of symmetry on the main substrate holder, the separately heatable sources located in the main substrate holder in the growth chamber.